Amendments to the Claim

1. (Currently Amended):  A method of video analysis comprising the steps of:

estimating a background reference frame for representing a background;

estimating geometric parameters for representing a scale variation of objects in a given frame, the geometric parameters comprising a weighting for each pixel in the given frame;

obtaining a change detection map for distinguishing the background from the objects in the given frame; and

combining the change detection map with the geometric parameters to determine a measure of congestion of the given frame.

2. (Original):  The method of claim 1, wherein the step of estimating the background reference frame further comprises:

initializing each region of the image with a single node and a local model;

evaluating confidence limits of the local model;

evaluating the local model to determine a multi-modality, wherein if a multi-modality is detected, further comprising:

splitting the local model into multiple nodes.

3. (Original):  The method of claim 1, wherein said scale variation comprises variation in the object's width and height as a function of said object's position in the given frame.

4. (Original):  The method of claim 1, further comprising the step of updating the background reference frame using the change detection map.

5. (Original):  The method of claim 1, wherein the measure of congestion is a prolonged temporal event wherein a given percentage of a subway platform is crowded for a user-defined period of time.

6. (Original): The method of claim 2, wherein each of said multiple nodes is assigned to a new state.

7. (Original): The method of claim 4, wherein static pixels of the background reference frame are updated.

8. (Currently Amended): A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for video analysis comprising the steps of:

estimating a background reference frame for representing a background;

estimating geometric ~~parameters~~ weights for each pixel for representing a scale variation of objects in a given frame;

obtaining a change detection map for distinguishing the background from the objects in the given frame; and

combining the change detection map with the geometric ~~parameters~~ weights to determine a measure of congestion of the given frame.

9. (Original): The program storage device of claim 8, wherein the step of estimating the background reference frame further comprises:

initializing each region of the image with a single node and a local model;

evaluating confidence limits of the local model;

evaluating the local model to determine a multi-modality, wherein if a multi-modality is detected, further comprising:

splitting the local model into multiple nodes.

10. (Original): The program storage device of claim 8, wherein said scale variation comprises variation in the object's width and height as a function of said object's position in the given frame.

11. (Original): The program storage device of claim 8, further comprising the step of updating the background reference frame using the change detection map.

12. (Original): The program storage device of claim 8, wherein the measure of congestion is a prolonged temporal event wherein a given percentage of a subway platform is crowded for a user-defined period of time.

13. (Original): The program storage device of claim 9, wherein each of said multiple nodes is assigned to a new state.

14. (Original): The program storage device of claim 11, wherein static pixels of the background reference frame are updated.